

Applicant : Gregory Rose et al.
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Please amend the claims as follows (this listing of claims replaces all prior listings):

1. (Currently amended) A circuit comprising:
a PAD signal line connectable to an external ~~best line~~ signal line;
a keeper stage ~~configured~~ to hold the PAD signal line in a weakly held state responsive to changes in the state of the external ~~best signal~~ signal line that occur after a powering down.
2. (Original) The circuit of claim 1 in which the weakly held state is the last in time state of the external signal line.
3. (Original) The circuit of claim 1 wherein the keeper stage comprises at least one controllable weak pull-up device and at least one controllable weak pull-down device.
4. (Original) The circuit of claim 3 further comprising circuitry configured to disable the at least one weak pull-down device if the weak-pull up device is enabled and to disable the at least one weak pull-up device if the weak pull-down device becomes enabled.
5. (Currently amended) The circuit of claim 3 in which the control of the at least one controllable weak pull-up device comprises a logical NAND of a SLEEP signal and the PAD signal and the control of the at least one controllable weak pull-down device comprises a logical NOR of ~~the inverted~~ an inverted SLEEP signal and the PAD signal.
6. (Original) The circuit of claim 1 further comprising a controllable output buffer stage which is able to drive the state of the PAD signal and having circuitry to enable and disable the output buffer stage based upon the state of an ENABLE signal.

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7. (Original) The circuit of claim 1 further comprising a SLEEP signal which can enable and disable the keeper stage.

8. (Original) The circuit of claim 7 further comprising controlling the at least one weak pull-up and the at least one weak pull-down device based upon the state of the SLEEP signal.

9. (Currently amended) A method comprising:
after a powering down, sensing the state of an external signal; and
storing the state of the external signal in a PAD signal weakly held in a stored state by a keeper stage; stage, the weakly held PAD signal being responsive to changes in the state of the external signal.

10. (Original) The method of claim 9 in which the weakly held state of the PAD signal may be overcome by the external signal.

11. (Original) The method of claim 9 further comprising using at least one controllable weak pull-up device and at least one controllable weak pull-down device to implement the keeper stage.

12. (Original) The method claim 11 further comprising disabling the at least one weak pull-down device when the at least one weak-pull up device is enabled, and disabling the at least one weak pull-up device when the at least one weak pull-up device is enabled.

13. (Original) The method of claim 12 further comprising controlling the weak pull-up device with a logical NAND of the PAD signal and a SLEEP signal, and controlling the at least one weak pull-down device with a logical NOR of the inverse of the SLEEP signal and PAD signal.

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14. (Original) The method of claim 9 further comprising enabling and disabling the keeper stage based upon the state of a SLEEP signal.

15. (Original) The method of claim 13 further comprising turning on and turning off the at least one weak pull-up and at least one weak pull-down devices based upon the state of the SLEEP signal.

16. (Original) The method of claim 15 further comprising implementing the controllable weak pull-up device and the controllable weak pull-down device with square devices in an integrated circuit.

17. (Currently amended) A system comprising:
a PAD signal line; ~~and~~
an external signal line; and
electronic circuitry comprising a keeper stage configured to hold the PAD signal line weakly in a stored state responsive to changes in the state of the external signal line that occur after a powering down.

18. (Original) The system of claim 17 in which the weakly held PAD signal state is the last in time state of the PAD signal line.

19. (Original) The system of claim 17 wherein the keeper stage comprises at least one controllable weak pull-up device and at least one controllable weak pull-down device.

20. (Original) The system of claim 19 further comprising control circuitry configured to disable the at least one controllable weak pull-down device if the at least one controllable weak-pull up device is enabled, and to disable the at least one controllable weak-pull-up device if the at least one controllable weak pull-down device becomes enabled.

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21. (Original) The system of claim 17 wherein the circuitry is implemented in an integrated circuit.

22. (Original) The system of claim 21 wherein the controllable weak pull-up device and the controllable weak pull-down device are square devices.

23. (Original) The system of claim 20 further comprising a SLEEP signal line and control circuitry configured to disable and enable the keeper stage based upon the state of the SLEEP signal.

24. (New) An apparatus comprising:
a signal line that is driven by an internal circuit or an external device; and
a keeper circuit to hold the signal line in a weakly held state that represents the last in time state of the signal line as driven by the external circuit after the internal circuit is powered down.

25. (New) The apparatus of claim 24 in which the keeper stage comprises at least one controllable weak pull-up device and at least one controllable weak pull-down device.

26. (New) The apparatus of claim 24 in which the keeper circuit also holds the signal line in a weakly held state that represents the last in time state of the signal line as driven by the internal circuit before the internal circuit is powered down.

27. (New) The apparatus of claim 24 in which the weakly held state can be overcome by either the internal circuit or the external device.